

ABSTRACT

A new method is provided for the creation of contact holes. The invention provides two masks. The first mask, referred to as the packed mask, comprises the desired contact holes, which are part of the creation of a semiconductor device. To the packed mask are added padding holes in order to increase the hole density of the packed mask. The second mask, referred to as the unpacking mask, comprises openings at the same locations as the locations of the padding holes of the first mask, the openings provided in the second mask have slightly larger dimensions than the padding holes of the first mask. A first exposure is made using the packed mask, a second exposure of the same surface area is made using the unpacking mask. The unpacking mask is used to selectively cover the padding contact holes, resulting in the final image. Two types of unpacking masks can be used, a first type having unpacking holes that surround the desired hole pattern, a second type having unpacking holes that align with the desired hole pattern.